Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-26 (canceled)

27 (new): A method for operating one or more transistors, comprising:

providing a transistor comprising a surface layer adjacent to a gate and intermediate to a source and a drain; and

modulating a free charge carrier density distribution in the surface layer by applying a back-bias voltage to the transistor.

28 (new): The method of claim 27, further comprising applying a voltage to the gate to control a current between the source and the drain.

29 (new): The method of claim 28, wherein modulating the free charge carrier density distribution comprises causing the current to flow predominately through a buried channel layer.

30 (new): The method of claim 28, wherein modulating the free charge carrier density distribution comprises selecting the back-bias voltage in cooperation with the gate voltage to cause radio frequency operation of the transistor.

31 (new): The method of claim 28, wherein applying the voltage to the gate comprises selecting a range of gate voltages to operate the transistor in a substantially linear drain current versus source voltage condition.

32 (new): The method of claim 28, wherein applying the voltage to the gate comprises operating the transistor as an analog device.

33 (new): The method of claim 32, wherein applying the voltage to the gate comprises operating the transistor as a power device.

34 (new): The method of claim 27, wherein modulating the free charge carrier density distribution comprises controlling an inversion region in the surface layer.

35 (new): The method of claim 34, wherein modulating the free charge carrier density distribution comprises substantially preventing formation of the inversion region in the surface layer.

36 (new): The method of claim 27, wherein the surface layer comprises a semiconductor that is substantially strain-free.

37 (new): The method of claim 27, wherein the surface layer is intermediate to the gate and a relaxed layer comprising silicon and germanium.

38 (new): The method of claim 27, wherein modulating the free charge carrier density distribution comprises applying the back-bias voltage to one of a substrate and an intermediate layer adjacent to the transistor.

39 (new): A semiconductor device, comprising:

a transistor comprising a surface layer adjacent to a gate and intermediate to a source and a drain;

a terminal facilitating application of a voltage to the gate to control a current between the source and the drain; and

a charge carrier modulator facilitating application of a back-bias voltage to the transistor to modulate a free charge carrier density distribution in the surface layer.

40 (new): The device of claim 39, wherein application of the back-bias voltage to the transistor further modulates a free charge carrier density distribution in a buried layer.

41 (new): The device of claim 39, wherein the surface layer comprises tensilely strained silicon.

42 (new): The device of claim 39, wherein the device is an analog device.

43 (new): The device of claim 42, wherein the device is a power device.

44 (new): The device of claim 39, further comprising a relaxed layer comprising silicon and germanium, wherein the surface layer is between the relaxed layer and the gate.